An Interdisciplinary Approach to Delirium

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Disclosure

• No conflicts of interest
• No commercial support
DELI芜湖
How would you rate your knowledge of delirium?

1. I have never heard of delirium
2. I know a little but I'm looking forward to a refresher
3. I am comfortable with my knowledge and approach to delirium
4. I am an expert and should probably be teaching this session
Delirium

- A common condition affecting older adults, especially those with dementia

- Common complication of hospital admission for older adults

- A major cost to our health care system
Delirium is a medical emergency which is characterized by an acute and fluctuating onset of confusion, disturbances in attention, disorganized thinking and/or an altered level of consciousness.
Delirium can lead to serious complications

- Prolonged hospital stays (up to 2X)
- Increased mortality 3-5 times
- Worsening physical and cognitive decline
- Persistent delirium
- Increased admission to LTC

Distressing for patients, caregivers, and health care professionals
How common is delirium?

- **Presentation to the ED:** 8-17% in all elderly persons
  - 70% increased risk of death in the 6 months following the visit
- **Nursing home residents:** 40%
  - Some studies say up to 64 to 70%
- **Adult Hospital Inpatients:** approx 20%
- **Older Adults Hospital Inpatients:** approx 50%
- **Hospital Inpatients with dementia:** up to 89%
- **Hospital Inpatients with hip fracture:** up to 62%

Those who develop delirium on general medicine or old age medicine wards have a **1 ½ times increased risk for death** in the year after hospital admission.
How common is post stroke delirium?

• Studies range from 13-48% most include ischemic and hemorrhagic stroke

• Presence of Post Stroke Delirium associated with:
  – Increased length of hospitalization
  – Increased mortality and poor outcomes
  – Worse functional outcomes (physical, cognitive, Barthel score)
  – Increased post stroke dementia
The KEYS to success

**Recognize** a delirium is present

**Management** of the delirium
1. Maintain safety
2. Identify the cause
3. Manage symptoms
What does a patient with delirium look like?

- Decreased recognition
- Hallucinating
- Incontinent
- Hallucinations
- Sense
- Confused
- Disoriented
- Agitated
- Hyperactive
- Poor historian
- Wandering
- Exit-seeking
- Speech patterns change
- Aphasic
- Irritable
- Worried
- Not themselves
- Sleepy
- Disorganized
- Making sense
- Irritated
- Agitated angry
- Exit-seeking
3 Subtypes of Delirium

**Hyperactive**
- Motor hyperactivity
- Logorrhea
- Aggressive behaviours
- Increased reactivity

**Hypoactive**
- Motor hypoactivity
- Speech retardation
- Diminished facial expression
- Mental slowness
- Diminished reactivity

**MIXED**
Recognizing Delirium

• Relies solely on CLINICAL SKILLS

• NO DIAGNOSTIC TEST exists

• “confused elderly patient”

• It is undiagnosed in over half of older people with the condition (i.e. 32-70%)
  – By physicians, nurses, and interprofessional teams!
Recognizing Delirium

• Consider the approach that all older adults presenting with confusion may have delirium until proven otherwise

• Delirium is often frightening for the person experiencing it

• Let’s watch a short video
**Confusion Assessment Method (CAM)**

The diagnosis of delirium by **CAM** requires the presence of both features **A** and **B**.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Acute Onset and Fluctuating Course</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Inattention</td>
</tr>
</tbody>
</table>

For feature **B**, does the patient:
- Have difficulty focusing attention?
- Become easily distracted?
- Have difficulty keeping track of what is said?

**CAM** and the presence of either feature **C** or **D**.

<table>
<thead>
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<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>C</strong></td>
<td>Disorganized Thinking</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>Altered Level of Consciousness</td>
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</table>

For feature **C**, is the patient’s thinking:
- Disorganized
- Incoherent

For example, does the patient have:
- Rambling speech/irrelevant conversation?
- Unpredictable switching of subjects?
- Unclear or illogical flow of ideas?

Overall, what is the patient’s level of consciousness:
- Alert (normal)
- Vigilant (hyper-alert)
- Lethargic (drowsy but easily roused)
- Stuporous (difficult to rouse)
- Comatose (unrousable)
Confusion Assessment Method (CAM)

Uses 4 criteria:
(1) acute onset and fluctuating course
(2) inattention
(3) disorganized thinking
(4) altered level of consciousness

Diagnosis:
(1) + (2) AND (3) or (4)
Confusion Assessment Method (CAM)

Uses 4 criteria:

(1) acute onset and fluctuating course

Is there evidence of an acute change in mental status from the patient’s baseline? Did this behaviour fluctuate during the past day – that is, tend to come and go or increase and decrease in severity? Usually requires information from a family member or caregiver.
Confusion Assessment Method (CAM)

Uses 4 criteria:

(2) inattention

Does this patient have difficulty focusing attention—for example, are they easily distracted or do they have difficulty keeping track of what is being said? (Inattention can be detected by the digit span test or asking for the days of the week to be recited backwards)
Confusion Assessment Method (CAM)

Uses 4 criteria:

(3) Disorganized thinking

Is the patient’s speech **disorganized** or **incoherent**, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching between subjects?

(Disorganized thinking and sleepiness can also be detected during conversation with the patient)
Uses 4 criteria:

(4) Altered level of consciousness

Overall, would you rate this patient’s level of consciousness as alert (normal), vigilant (hyperalert), lethargic (drowsy, easily aroused), stupor (difficult to arouse), or coma (cannot be aroused)? All ratings except alert are scored as abnormal.
ASSESSMENT FOR INATTENTION

*If time to do only one cognitive task, assess attention*

- Digit span test (normal: 5F, 3B)
- Days of week backwards
- Months of year backwards
- Trails B test (alternating letters and numbers A-1-B-2-C-3-D-4, etc.)
The KEYS to success

Recognize a delirium is present

Management of the delirium
1. Maintain safety
2. Identify the cause
3. Manage symptoms
Identify the Cause: Predisposing Factors

- Dementia
- History of Delirium
- Over age of 65 years
- Functional Impairment
- Severe illness
- Multiple diseases
- Admission to hospital / LTC Home

- Infection
- Visual, auditory impairments
- Polypharmacy
- Alcohol excess
- Renal impairment
- Malnutrition, dehydration
- Restraints
Identify the Cause: Precipitating Factors

- Drug toxicity (30%)
- Infections (urinary, pneumonia, catheters, fever)
- Metabolic or endocrine disorders (dehydration, anemia, hyper/hypoglycemia)
- Neurologic and vascular disorders
- Constipation
- Physical Restraints
- Pain
- Surgery and Trauma (especially hip fractures)
- Sleep deprivation
- Environmental
- Drug or alcohol withdrawal
Post Stroke Delirium

• Presence of pre-existing cognitive decline is one of the most important risk factors.

• Other risks:
  – Infection
  – Right sided hemispheric stroke
  – Anterior circulation large vessel stroke
  – Stroke severity/extensive motor impairment
  – Brain atrophy
  – Neglect
For those who prefer a mnemonic...

**I**nfection

**W**ithdrawal (benzodiazepines / alcohol)

**A**cute metabolic (fluids/electrolytes/glucose)

**T**rauma (pain)

**C**NS pathology (CVA, bleed, tumour)

**H**ypoxia

**D**eficiencies

**E**ndocrine

**A**cute vascular

**T**oxin/Drugs (anticholinergics, narcotics, OTC)

**H**eavy metals
Identify the Cause: RELIABLE History

- Onset of symptoms
- Functional ability PRIOR vs. current
- Cognition – tests of attention
- Mood/behavioural symptoms
- Sensory: Vision/hearing/communication
- Nutrition/hydration
- Bowel/bladder
- Sleep pattern
- Pain
- Physical symptoms (+physical exam)
- Psychosocial history
- Assess potential risk of harm
Identify the Cause: Investigating Medical Causes

• Consider the need for laboratory tests
  – Eg. Serum electrolytes, creatinine, glucose, calcium, complete blood count, and urinalysis and urine culture* are reasonable for most patients when a cause is not immediately obvious

• Consider the need for imaging
  – X-ray
  – Head CT if localizing signs or history of head trauma
Identify the Cause: Medication Review

• Best possible medication history including OTC, Etoh, recreational
• Recent changes (new and stopped medications)
• Compliance
• Try to:
  – Minimize psychoactive medications
  – Avoid PRN’s
  – Use non pharmacological approaches
  – Substitute less toxic alternatives
  – Reduce dosage
• Re-evaluate chronic medication usage
The KEYS to success

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How do we manage delirium?

- antibiotic
- check/Intake
- antibiotics
- keep-calm-env
- toilet
- meaningful/Activity
- keepthem-safe
- team/communication
- listen
- sleep
- exercise
- education
- simplify
- structure
- routine
- clock
- mobilize
- fluids
- connect
- calm
- bladderscan
- photos/from/home
- npconsult
- remove/restraints
- mcelhaney
Manage Symptoms: Interprofessional Interventions

- Early Mobilization
- Fluid Repletion
- Pain Management
- Orientation & Therapeutic Activities
- Feeding Assistance
- Vision and Hearing
- Sleep Enhancement
- Infection Prevention
- Hypoxia protocol
- Psychoactive medication protocol
Manage Symptoms: Interprofessional Interventions

• **Early Mobilization**
  – Encourage early (post-operative) mobilization and regular ambulation (frequent toileting)
  – Keep walking aids nearby at all times
  – Encourage all patients to engage in active exercise and social

• **Fluid Repletion**
  – Encourage patients to drink
  – Seek advice regarding fluid balance in patients with comorbidities (heart failure, renal disease)

• **Pain Management**
  – Assess for pain, especially in patients with communication difficulties
  – Begin and monitor pain management
Manage Symptoms: Interprofessional Interventions

• **Orientation & Therapeutic Activities**
  – Re-orient the patient to time, place, person, your role
  – Appropriate lighting, signs, calendars, clocks
  – Remove items that could be misinterpreted
  – Facilitate regular visits from family and friends
  – Introduce cognitively stimulating activities (e.g., reminiscing)

• **Feeding Assistance**
  – Seek advice from dietician as needed
  – Ensure proper fit of dentures

• **Vision and Hearing**
  – Ensure hearing aids and glasses are in good working order and are being worn
Manage Symptoms: Interprofessional Interventions

• **Sleep Enhancement**
  – Avoid medical or nursing procedure during sleep if possible
  – Schedule medications to avoid disturbing sleep
  – Reduce noise at night

• **Infection Prevention**
  – Look for and treat infections
  – Avoid unnecessary catheterization
  – Implement infection-control procedures

• **Hypoxia Protocol**
  – Assess for hypoxia and oxygen saturation
Manage Symptoms: Interprofessional Interventions

• **Communication!**
  – Acknowledge the situation
  – Validate the person’s emotions and experience
  – Provide reassurance
  – Explain delirium to the caregivers AND the person who is experiencing it
  – Face the person, use their name, identify yourself often

• **Safety**
  – Remove any unsafe items
  – No physical restraints
  – Consider need to lower the bed
  – Never force care
  – If responsive behaviours, remain calm and re-assuring
  – Monitor skin
## Delirium – Searching for the Cause

### Delirium Symptom List from CAM
- Sudden change in mental status
- Change in behaviour: fluctuates from normal to abnormal over hours to days to weeks (<1 mo)
- Difficulty in focusing attention
- Disorganized thinking and/or altered level of consciousness

Begin your assessment with the highest probable risk for your patient’s situation.

### Drug Toxicity?

<table>
<thead>
<tr>
<th>a. On more than six medications, especially:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- anticonvulsants</td>
</tr>
<tr>
<td>- histamine H₂ antagonist</td>
</tr>
<tr>
<td>- insulin/hypoglycemic agent</td>
</tr>
<tr>
<td>- antipsychotics</td>
</tr>
<tr>
<td>- benzodiazepines</td>
</tr>
<tr>
<td>- narcotics</td>
</tr>
</tbody>
</table>

Order drug chemistry and/or trial discontinuation of medicine.

| b. Receiving a medication for more than 5 years |
| c. Age 75 or older                            |
| d. Running drug levels beyond or at the high end of therapeutic range |

### Sleep Disturbance?

| a) Assess baseline normal sleep pattern |
| b) Identify causes of sleep disturbance (Medications, pain and/or environment) |

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2008 October  RGPC: ML van der Horst  VIHA: Delirium in the Older Person

Primary Care Version  [www.rgpc.ca](http://www.rgpc.ca)  [www.viha.ca](http://www.viha.ca)

What are you taking away from the last 30 minutes?

Respond at PollEv.com/nesgc  ☎️ Text NESGC to 37607 once to join, then text your message

“iwatchdeath”

“Communication with multidisciplinary team, essential”

“Signs-of-hypoactive-delirium”

“Keepdeleriuspatientsengaged”

“The fluctuating nature of delirium”

“Watchfordeleriuminstrokepatients”

“Lots-CAM-solutions”

“Lookoutforhypoactive-delirium”

“Bemindfulofchangesatalltimes”

“Hypostate”

“Teamapproach”

“Complexity and multitude of contributing factors”

“CAMtool”

“Talk to family”
Thank you.

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1. Up to date content: “Delirium” accessed via HSN library
2. Up to date content: “Delirium and acute confusional states: Prevention, treatment, and prognosis” accessed via HSN library
3. Regional Geriatric Program of Toronto Delerium Resources: https://www.rgptoronto.ca/resources/
References


DSM-V Definition

1. Disturbance in **attention** (reduced ability to direct, focus, sustain, and shift attention) and **awareness**.

2. Disturbance develops over a short period of time (usually hours to days), represents a **change from baseline**, and tends to **fluctuate** during the course of the day.

3. An additional disturbance in cognition (memory deficit, disorientation, language, visuospatial ability, or perception)
4. The disturbances are not better explained by another preexisting, evolving or established neurocognitive disorder, and do not occur in the context of a severely reduced level of arousal, such as coma.

5. There is evidence from the history, physical examination, or laboratory findings that the disturbance is caused by a medical condition, substance intoxication or withdrawal, or medication side effect.